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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,320	07/02/2003	Michael Bothe	041165-9052	4065

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EXAMINER	
BENENSON, BORIS	

ART UNIT	PAPER NUMBER
2836	

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

5A

Office Action Summary	Application No.	Applicant(s)	
	10/612,320	BOTHE ET AL.	
	Examiner	Art Unit	
	Boris Benenson	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 January 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,6-10,12 and 15-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6-10,12 and 15-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Actions

1. Amendment received on 1/10/2005 is entered.

   i. Claims 1 and 10 are amended.

   ii. Claims 2,4,5,11,13 and 14 are cancelled.

   iii. Claims 1,3,6-10, 12, and 15-18 are pending in the Application.

Response to the arguments

2. Applicant argues that references don't teach or suggest a protection device comprising a plastic non-ferromagnetic coil form onto the windings is applied. It is a correct statement. But Applicant doesn't disclose such a limitation in the Specification or original set of Claims. The disclosure indicates, "The coil form of the preferred embodiment of the present invention consists of plastics, of ferrite material or of another material of which commercially available printed circuit boards are made". So that a limitation of amended Claims 1 and 10 constitutes a new matter and addressed in new rejection.

3. Applicant also argues that references don't teach non-ferromagnetic **core** and **enameled** copper wire used for the winding. The limitation "non-ferromagnetic **core**" is not claimed and therefore is irrelevant to this Application. If Applicant

meant a plastic non-ferromagnetic coil form, it is addressed in new rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1 and 10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims are including a limitation of "a plastic non-ferromagnetic coil form". The disclosure indicates that a coil form consists "of plastics, of ferrite material or of another material of which commercially available printed circuit boards are made". The descriptions of a plastic non-ferromagnetic coil form have not been found in the disclosure. Claims include also a limitation of "an enameled copper wire" which could be found in the disclosure. The disclosure indicates "The protective layer or coating of the winding and of the coil

form consists of a material which reduces or minimizes flame or smoke formation, preferably of corresponding varnish, foil or flexible insulating tubing materials" without mentioning "an enameled copper wire". A new limitation of "a single layer around said coil form" or "one single winding layer" also added into amended Claims. Such limitation does not have support in the disclosure. Those limitations constitute a new matter. For purpose of art rejection "a plastic non-ferromagnetic coil form" will be treated as "a plastic coil form". A single layer will be treated as at least one winding layer as it stated in the disclosure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 8-9, 10, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho (US Patent Application US 2003/0102947 filed 12/05/2001, published 06/05/2003) in view of

Kalsi et al. (6,275,365), Kropielicki et al. (5,835,066) and Lace (5,391,831). Ho discloses (as a Prior Art) a circuit (Figure 1) for converting an AC source into DC one comprising an inrush current limiter (50) and a fusible link (60) connected with an AC input source. Ho disclosed a circuit wherein one element provides function of the fusible link (interruption function), the inrush current limiter and an EMC choke that achieved by installing an electrically conductive winding - resistance multiplayer coil (Fig.3, Pos.2) substituting elements (50 and 60) of the Prior Art. Coil comprises two coils (21) with a smaller number of turns and coil (22) with a larger number of coils. Ho didn't disclose a bifilar winding of the coil. Kalsi et al. teach a Resistive Fault Current Limiter. The Current Limiter employs bifilar coils. Kalsi et al. teach "In essence, this parallel, bifilar winding approach provides a low inductance with a configuration (i.e., coil, solenoid) commonly associated with providing high inductance"(Col. 5, Lines 36-39), therefore replacement of the multilayer coil (2) of Ho with a bifilar winding coil will eliminate the EMC choke, and multilayer coil (2) will be a low inductance resistive winding. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified circuit of Ho with teachings of Kalsi et al. and use bifilar coil (with

equal numbers of turns made in opposite directions), because it reduces power supply noise by reducing inductance of power supply wiring, that may be critical in some applications.

Nether Ho no Kalsi et al. disclose a material from which a coil form should be made. Lace teaches an Electromagnetic Musical Pickup Having U-shaped Ferromagnetic Core. Lace teaches a core "on which two non-magnetic coil forms 442A and 442B, usually plastic, are mounted" (Col.7, Lines 15-16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Ho in view of Kalsi et al. and make a coil form from non-magnetic plastic material, because it will not introduce an extra inductance that may produce unwanted noise.

Ho and Kalsi et al. did not disclose a material from which bifilar coil windings are made. Kropielicki et al. teaches a Coil Construction. Kropielicki et al. teaches a bifilar coil construction comprising two separate windings (Fig.1, Pos. 9 and 10). Each coil is made from copper wire. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a copper wire for coil winding, because copper is a material, which can be easily soldered to a circuitry of the printed board.

Referring to Claims 8, 9, 17 and 18, Ho disclosed that the device "is coated with a covering layer 4 having protection effect to avoid smoke or fire when the resistance coil 2 blows" (paragraph 17).

6. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho (US Patent Application US 2003/0102947) in view of Kalsi et al. (6.275,365) and Lace (5,391,831) as applied to claims 1 and 10 above, and further in view of Zaleski (3,845,417). Ho and Kalsi et al. did not disclose a winding wherein a plurality of turns is spaced apart for mutual isolation. Zaleski teaches a Gyromagnetic Circuit Element wherein "the coil was wound with No. 40 bare wire with the turns spaced apart by approximately 0.003 inches"(Col.3, Lines 35-37). Applicant does not provide any significant reason for using uninsulated wire for windings of the coil, but if for any design considerations it is preferable it would have been obvious to one of ordinary skill in the art at the time the invention was made to have spaced turn of the windings apart, because it will prevent shorting of adjacent loops in the coil.

7. Claims 6-7 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho (US Patent Application US 2003/0102947) in view of Kalsi et al. (6.275,365) and Lace (5,391,831) as applied to claims 1 and 10 above, and further in

view of Lorenzen (4,821,152). Ho and Kalsi et al. did not disclose use of wire ends or terminal pins to be soldered into a printed circuit board. Lorenzen teaches a Method And Device For Mounting Electrical Components On A Circuit Board. Lorenzen describes In Background Of The Invention section Lorenzen describes conventional method of mounting electronic components on a printed circuit board "if transformers, anti-interference coils or capacitors have to be arranged, it is necessary to connect soldering pins with the normally relatively thin connection wires of the windings of a transformer or of a coil. These pins are then seated in suitable recesses of the housing extending towards the circuit boards a length sufficient to ensure that during mounting of the housing, the soldering pins can be passed through suitable bores in the circuit board to enable them to be soldered on the reverse side, i.e. on the conductor side of the circuit board. Although it is sometimes possible to do without such separate soldering pins, namely when the connection wires are relatively thick"(Col.2, lines 45-58). In other words an electronic component may be attached to a circuit board directly by soldering its wire (if wire is thick enough) or through termination pins specially inserted and soldered to a surface of the circuit board. It would have been obvious to one of ordinary skill in the art at the time the

invention was made to use teachings of Lorenzen and connect coil to the circuit board by soldering wire end or through termination pins and solder the wire to printed board or termination point at point of a connection (soldering point), because it is known method provide reliable connection between the circuit board and component.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boris

Benenson whose telephone number is (571) 272-2048. The examiner can normally be reached on M-F (8:20-6:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 ext 36. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Boris Benenson
Examiner
Art Unit 2836

B.B.

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